

WHAT IS CLAIMED IS:

1. A plasma generating apparatus, comprising:
a chamber;
an anode provided within said chamber and including a plurality of
first electrodes;
5 a cathode provided within said chamber and including a plurality of
second electrodes;
a power supply for applying a voltage to the first and second
electrodes to form a sheet plasma that reflects directional electromagnetic
waves; and
10 first and second switching means for switching groups of said first
and second electrodes to which the voltage from said power supply is applied
so as to change an angle or a shape of said sheet plasma.

2. The plasma generating apparatus according to claim 1, wherein
said first and second electrodes are respectively arranged in a matrix.

3. A plasma generating apparatus, comprising:
a chamber;
an anode and a cathode provided within said chamber;
a power supply for applying a voltage to said anode and said cathode
5 to form a sheet plasma between said anode and said cathode that reflects
directional electromagnetic waves; and
driving means for driving at least one of said anode and said cathode
so as to change an angle of said sheet plasma.

4. The plasma generating apparatus according to claim 3, wherein
said driving means includes a rotation mechanism for rotating at least one
of said anode and said cathode.

5. The plasma generating apparatus according to claim 3, wherein
said driving means includes a tilting mechanism for tilting at least one of

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said anode and said cathode.

6. A plasma generating apparatus, comprising:

a chamber;

an anode and a cathode provided within said chamber;

a power supply for applying a voltage to said anode and said cathode

5 to form a sheet plasma between said anode and said cathode that reflects
directional electromagnetic waves;

a first magnet provided on said anode;

a second magnet provided on said cathode; and

10 magnet driving means for driving at least one of said first magnet
and said second magnet so as to change an angle of said sheet plasma.

7. The plasma generating apparatus according to claim 6, wherein
said magnet driving means includes a rotation mechanism for rotating at
least one of said first magnet and said second magnet.

8. The plasma generating apparatus according to claim 1,
characterized in that said voltage is a pulse voltage, a high-frequency
voltage, or a direct current voltage.

9. The plasma generating apparatus according to claim 1, wherein
at least one of said cathode and said anode has a flat-plate shape.

10. The plasma generating apparatus according to claim 1,
wherein at least one of opposing surfaces of said cathode and said anode is a
curved surface.